REMARKS

Claims 1-42 are now pending in the application. Claims 1, 14, 18, 28, 33, 37, and 42 have been amended. In view of the foregoing amendments and following remarks, Applicant respectfully requests allowance of this application.

INTERVIEW SUMMARY

Applicant thanks Examiners DeCady and Trimmings for the courtesies extended at the interview on February 20, 2004. During the interview, the Examiners agreed to withdraw the § 112, first paragraph, rejections to claims 8-13, 24-27, and 41. The Examiners also acknowledged that the cited references do not teach testing an input signal having a differential signal component. A favorable review of the pending claims is earnestly requested in view of the foregoing amendments and following remarks.

REJECTIONS UNDER 35 U.S.C. § 102

Claims 1-4, 14-17, 18-21, and 42 stand rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,909,186 to Gohringer ("Gohringer"). This rejection is respectfully traversed.

Independent claims 1, 14, 18, and 42 recite a method for testing an electronic device, which comprises:

> applying to the electronic device an input test signal having an analog component, a digital component, and a differential component;
> monitoring the response of the electronic device on a differential monitoring device to obtain analog data;
> monitoring the response of the electronic device on a tester receiver to obtain digital data.

Gohringer does not disclose, teach, or suggest the claimed subject matter. As is well known to those skilled in the art, a differential signal is different from an analog

signal and/or a digital signal. For example, the analog and digital signals are single-ended signals whereas the differential signal is not, thereby allowing the usage of lower voltage swings, less sensitivity to crosstalk, and reduction in EMI. *See* Douglas Brooks, *Differential Signals: The Differential Difference!*, CMP publication (May 2001); Cadence Design Systems, Inc., *Inside Differential Signals*, Cadence Community Educational Series (Dec. 2001). Thus, Gohringer fails to teach input test signals having an analog signal component, a digital signal component, and a differential signal component.

Additionally, Gohringer does not disclose, teach, or suggest monitoring the response of the electronic device with two different devices to obtain analog and digital data. The Examiner alleges that Gohringer monitors analog data through the tester interface 3335 and digital data directly via the tester interface 3365. Applicant respectfully disagrees. The alleged tester interfaces 3335 and 3365 are not tester interfaces, but rather, these reference numerals indicate output signals generated by the devices under test. Instead, both of these output signals generated by the devices under test are monitored by the digital tester 3310. *See Gohringer*, FIG. 3C. Thus, Gohringer fails to teach monitoring the response of an electronic device on a differential monitoring device to obtain analog data.

Because these features of the claimed invention are neither disclosed in, nor taught by, Gohringer, independent claims 1, 14, 18, and 42 are allowable over the cited art. For the same reasons, claims 2-4, 15-17, and 19-21, which depend from independent claims 1, 14, and 18, respectively, are also allowable. Reconsideration and withdrawal of the § 102(b) rejections is respectfully requested.

REJECTIONS UNDER 35 U.S.C. § 103

Claims 28-31, 33, 34, 36, and 37-40 stand rejected under 35 U.S.C. § 103(a) as being obvious over U.S. Patent No. 5,951,704 to Sauer et al. ("Sauer") in view of Andrew Grochowski et al., *Integrated Circuit Testing for Quality Assurance in Manufacturing: History, Current Status, and Digital Signal Processing*, IEEE Transactions on Circuits and Systems-II,: Analog and Digital Signal Processing, Vol. 44, No. 8 (August 1997) ("Grochowski"). Claim 7 stands rejected under 35 U.S.C. § 103(a) as being obvious over Gohringer in view of G. Cauffet et al., *Digital Oscilloscope Measurements in High Frequency Power Electronics*, IEEE, reference 0-7803-0640-6/92, 445-47 (1992) ("Cauffet"). Claims 32 and 35 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Sauer in view of Cauffet. Finally, claims 5, 6, 22, and 23 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Gohringer in view of Sauer. These rejections are respectfully traversed.

Sauer does not overcome the deficiencies of Gohringer. Sauer discloses emulator software for testing a semiconductor device by comparing the actual data acquired using a test signal and the expected data. Sauer, however, does not disclose testing an electronic device using input test signals having an analog signal component, a digital signal component, and a differential signal component. Also, as set forth in the Response to Office Action filed October 27, 2003, Sauer does not disclose, teach, or suggest a testing device that monitors the response of the electronic device on a differential monitoring device to obtain analog data.

Grochowski also fails to make up the deficiencies of Gohringer and/or Sauer. Grochowski discloses a method for testing an analog signal that converts the analog

signal to a digital representation using a standard continuous to discrete transformation so that the converted digital signal can be monitored by the testing device. *See Grochowski*, p. 628. Grochowski, however, does not disclose, teach, or suggest testing a device using input test signals having an analog signal component, a digital signal component, and a differential signal component. Moreover, Grochowski fails to disclose, teach, or suggest obtaining analog data by monitoring the response of the electronic device on a differential monitoring device.

Cauffet discloses a digital oscilloscope intended to be used for high frequency power electronic investigation. Cauffet, again, fails to disclose, teach, or suggest testing a device using input test signals having an analog signal component, a digital signal component, and a differential signal component. Also, Cauffet fails to disclose, teach, or suggest obtaining analog data by monitoring the response of the electronic device on a differential monitoring device.

In sum, none of the cited references discloses, teaches, or suggests the claimed subject matter of independent claims 1, 14, 18, 28, 33, and 37. Thus, any alleged combinations of these cited references fail to render these claims obvious. Accordingly, independent claims 1, 14, 18, 28, 33, and 37 are allowable over the cited art. For the same reasons, claims 2-13, 15-17, 19-27, 29-32, 34-36, and 38-41, which depend from independent claims 1, 14, 18, 28, 33, and 37, respectively, are also allowable. Reconsideration and withdrawal of various rejections of claims 5-7, 22-23, 28-40 under 35 U.S.C. § 103 (a) is respectfully requested.

CONCLUSION

Applicant respectfully submits that the present case is in condition for allowance and respectfully requests that the Examiner issue a notice of allowance.

The Office is hereby authorized to charge any fees determined to be necessary under 37 C.F.R. § 1.16 or § 1.17 or credit any overpayment to Kenyon & Kenyon **Deposit Account No. 11-0600**.

The Examiner is invited to contact the undersigned at (202) 220-4200 to discuss any matter concerning this application.

Respectfully submitted,

Dated: February 24, 2004

K. Trisha Chang
(Reg. No. 48,962)

Enclosures:

1. Douglas Brooks, *Differential Signals: The Differential Difference!*, CMP publication (May 2001)
2. Cadence Design Systems, Inc., *Inside Differential Signals*, Cadence Community Educational Series (Dec. 2001)

KENYON & KENYON
1500 K Street, N.W.
Suite 700
Washington, D.C. 20005
Tel: (202) 220-4200
Fax: (202) 220-4201